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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/602,474	06/23/2000	Joseph Herbst	108339-09036	1343

32294 7590 09/30/2004

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EXAMINER	
LI, ZHUO H	

ART UNIT	PAPER NUMBER
2186	

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/602,474	HERBST, JOSEPH	
	Examiner	Art Unit	
	Zhuo H Li	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of the invention elected in the reply filed on 7/1/2004 is acknowledged. The traversal is on the ground(s) that the requirement for restriction in this application is improper. This is found persuasive. Thus, the previous Office action of June 1, 2004 is vacated. As a result, claims 1-4 and 6-20 are pending for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4 and 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McAllister et al. (US PAT. 6,501,755 hereinafter McAllister) in view of Hine (US PAT. 5,652,864).

Regarding claim 1, McAllister discloses a method for managing memoryin a network switch (220, figure 4) comprising the steps of providing a memory, i.e., address space, including a plurality of memory locations configured to store data, i.e., network message, therein (col. 9 lines 22-41), providing a memory address pool, i.e., address stack (224A, figure 4), having a plurality of available memory addresses arranged therein (col. 9 lines 47-55), wherein each of the

plurality of memory addresses obviously corresponds to a specific memory location, and providing means for indicating a next available memory address in the memory address in order to perform push or read operation (col. 19 lines 18-23), wherein the method further comprises the steps of reading available memory addresses from the memory address pool using a last in first out operation (col. 19 lines 23-26), writing released memory addresses into the memory address pool (col. 19 lines 26-40), and adjusting a position of the memory address pointer upon a read or a write operation from the memory address pool when a release of a released memory address does not occur in a same clock cycle as a request for an available address (col. 19 line 41 through col. 20 line 8). McAllister differs from the claimed invention in not specifically teaching to pass off the released memory address in place of the available memory address when the release of the released memory address occurs in the same clock cycle as the request for the available address. However, Hine teaches a method for allocating storage blocks by concurrently allocating two or more storage requests capable of passing off a released memory address in place of an available memory address when the release of the released memory address occurs in the same clock cycle as the request for the available address in order to speed up the memory management operation by allocation or return request concurrently (col. 7 line 30 through col. 8 line 34). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify McAllister in passing off the released memory address in place of the available memory address when the release of the released memory address occurs in the same clock cycle as the request for the available address, as per teaching of Hine, because it speeds up the memory management operation by allocation or return request concurrently.

Regarding claim 2, Hine teaches to initiate the steps of reading available memory addresses and writing released memory address during a second clock cycle when the reading step and the writing step are requested in a first clock cycle (col. 3 line 37 through col. 4 line 3).

Regarding claim 3, McAllister discloses a method for managing memory in a network switch (220, figure 4) comprising the steps of receiving a request from a module for a next available memory address in a first clock cycle and receiving a released memory address in the first clock cycle (col. 18 line 64 through col. 20 line 8). McAllister differs from the claimed invention in not specifically teaching the step of passing off the release memory address to the module requesting the next available memory address in place of the next available memory address in a second clock cycle, which is next clock cycle after the first clock cycle. However, Hine teaches a method for allocating storage blocks by concurrently allocating two or more storage requests capable of passing off a released memory address in place of an available memory address in a second clock cycle after the first clock cycle in order to speed up the memory management operation by allocation or return request concurrently (col. 7 line 30 through col. 8 line 34). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify McAllister in passing off the release memory address to the module requesting the next available memory address in place of the next available memory address in a second clock cycle, which is next clock cycle after the first clock cycle, as per teaching of Hine, because it speeds up the memory management operation by allocation or return request concurrently.

Regarding claim 4, Hine teaches to operate the passing off steps without incrementing or decrementing a next available memory address pointer associated with the memory (col. 8 lines 1-9).

Regarding claim 6, the limitation of the claim are rejected as the same reasons set forth in claim 1.

Regarding claim 7, the limitation of the claim are rejected as the same reasons set forth in claim 4.

Regarding claim 8, the limitation of the claim are rejected as the same reasons set forth in claim 1.

Regarding claims 9-10, McAllister discloses the memory address pool for storing and transporting data within intermediate networks (col. 9 ;ones 47-55) so that it recognizes the memory address pool comprises a cell free address pool or a slot free address pool.

Regarding claims 11-12, Hine teaches the memory controller being configured to read an available memory address form the memory address pool and to write a released memory address to the address pool and passing off the released memory address upon a request for the available memory address in the same clock cycle, i.e., concurrently, without adjusting the address pointer (col. 7 line 30 through col. 8 line 34).

Regarding claim 13, the limitation of the claim are rejected as the same reasons set forth in claim 1.

Regarding claims 14-15, Hine discloses the memory or storage in the form of RAM (col. 2 lines 65-66) so that one skill in the art would recognize the memory also comprising SRAM or SDRAM in order to make compatibility with different memories.

Regarding claims 16-17, the limitations of the claims are rejected as the same reasons set forth in claim 9-10.

Regarding claims 18-19, Hine discloses the memory controller comprising a common buffer pool controller or SDRAM controller (col. 2 line 64 through col. 3 line 10).

Regarding claim 20, the limitation of the claim are rejected as the same reasons set forth in claim 1.

Response to Arguments

4. Applicant's arguments with respect to claims 1-4 and 6-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hughes (US PAT. 5,784,582) discloses a data processing system having a memory controller for supplying current request and next request for accessing a memory (abstract).

6. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 308-6606

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor (Receptionist).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zhuo H. Li whose telephone number is 703-305-3846. The examiner can normally be reached on Tuesday to Friday from 9:30 a.m. to 7:00 p.m. The examiner can also be reached on alternate Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim, can be reached on (703) 305-3821.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Zhuo H. Li

Art Unit 2186

MATTHEW KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100